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Genetic Determinants for Human-Adapted Serovars of *Salmonella enterica*

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The prevalence of *Salmonella enterica* serovar Typhi, Paratyphi A and disease severity of typhoidal *Salmonella* necessitate the development of rapid and specific detection test. Comparative sequence analyses were performed for *S.* Typhi, *S.* Paratyphi A and a number of other *Salmonella* serovars. Based on *in-silico* PCR and primer design softwares, 3 pairs of oligonucleotides were designed targeting *hil*A gene for *Salmonella* serovars, and hypothetical protein for both *S.* Typhi and *S.* Paratyphi A. These were tested on a panel of derived and reference *Salmonella* strains. Upon PCR amplifications, amplicons of a band of 748bp for *Salmonella* positive, 784bp and 496bp for *Salmonella* Paratyphi A positive, 784bp and 332bp for *Salmonella* Typhi positive were produced. This PCR assay was apply directly on clinical and environmental specimen. About 200 strains isolated from clinical, food, and water specimen was tested. Our results show that this assay correctly identifies all the identity of strains tested. As a conclusion, the approach taken in this study offers the potential to contribute significantly to the rapid and simple detection of emerging pathogens.